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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :
SYLVIA MONSHEIMER, ET AL. : EXAMINER: J.E. COZART
SERIAL NO: 10/670,528 :
FILED: SEPTEMBER 26, 2003 : GROUP ART UNIT: 3726
FOR: PIPE CONNECTION

REPLY BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

This is a reply to the Examiner's Answer dated November 19, 2008.

As set forth in Claim 10, the present invention relates to a laser-welded composite part produced by a method for connecting a plastic pipe to another plastic part, wherein an outer layer of the plastic pipe and an outer layer of the other plastic part are largely opaque to laser light of a certain wavelength, which comprises:

sheathing both the plastic pipe and the other plastic part ends thereof by an additional adaptor made of a plastic transmissive to laser light, and

fastening the adaptor to at least one of the plastic pipe and the other plastic part by laser-beam welding;

wherein the composite part is a motor-vehicle pipeline; and

wherein the other plastic part has at least one nipple which is provided for the connection to the pipe, wherein said nipple is provided on the outside with a profile.

The present invention also relates to a laser-welded composite part, obtained by a method for connecting a plastic pipe to another plastic part, wherein

an outer layer of the plastic pipe and an outer layer of the other plastic part are largely opaque to laser light of a certain wavelength, which comprises:

(a) molding an additional adaptor of a material transmissive to laser light together with the other plastic part by a two-component injection-molding process,

(b) inserting the pipe into the adaptor, and

(c) fastening the pipe to the adaptor by means of at least one weld;

wherein the composite part is a motor-vehicle pipeline; and

wherein the other plastic part has at least one nipple which is provided for the connection to the pipe, wherein said nipple is provided on the outside with a profile.

See Claim 17.

As set forth in Claim 24, the present invention also relates to a laser-welded composite part, obtained by a method for connecting a plastic pipe to another plastic part, wherein

an outer layer of the plastic pipe and an outer layer of the other plastic part are largely opaque to laser light of a certain wavelength, which comprises:

(a) molding an additional adaptor of a plastic transmissive to laser light onto the other plastic part,

(b) inserting the pipe into the adaptor, and

(c) fastening the pipe to the adaptor by means of at least one weld;

wherein the composite part is a motor-vehicle pipeline; and

wherein the other plastic part has at least one nipple which is provided for the connection to the pipe, wherein said nipple is provided on the outside with a profile.

The present invention also relates to a laser-welded composite part, obtained by a method for connecting a plastic pipe to another plastic part, wherein an outer layer of the plastic pipe and an outer layer of the other plastic part are largely opaque to laser light of a certain wavelength, comprising the steps of:

molding the other plastic part onto an adaptor of a plastic transmissive to laser light,
inserting the pipe into the adaptor, and
fastening the pipe to the adaptor by means of at least one weld;
wherein the composite part is a motor-vehicle pipeline; and
wherein the other plastic part has at least one nipple which is provided for the connection to the pipe, wherein said nipple is provided on the outside with a profile.

See Claim 31.

The Examiner has rejected the claims as obvious over the combination of Savitski et al. (U.S. 6,596,122) and Fischerkeller et al. (6,155,302).

Savitski et al. disclose the simultaneous production of lap and butt joints in order to join plastic materials. See the Abstract and column 1, lines 14-20. The components are fused together to simultaneously form the lap and butt joints by the heat produced by applying radiation to the components. See column 1, lines 18-20. As the Office recognizes, Savitski et al. fail to disclose a nipple which is provided on the other plastic pipe for the connection to the pipe.

Fischerkeller et al. disclose a fastening device for attaching a fuel line to a connecting piece. See the Abstract. The fastening device contains a connector (10) that is alleged by the Office to correspond to the nipple recited in the claims.

One would not look to Fischerkeller et al. to modify Savitski et al. to incorporate a nipple provided on the outside with a profile as claimed. Savitski et al. explicitly disclose a way to connect the component parts, so there is no need for a nipple as claimed. The reference discloses that radiating the components generates heat which fuses the components with the simultaneous production of the butt and lap joints. Therefore, a nipple is not required. For that reason, one would not be motivated to modify the device described by Savitski et al. to include a nipple.

While Savitski et al. do not “explicitly exclude the possibility of adding supplemental retention features to either the pipe or other plastic pipe in combination with welding or heating” and the description in Fischerkeller et al. does not “destroy” the teachings in Savitski et al., the issue is whether those references in combination suggest the claimed invention. The Examiner asserts that:

...in fact the arrangement/connection of Fischerkeller achieves reliable sealing (col. 2, lines 60-66) even if the pipe (20) should widen after being heated since the adaptor (22) is prestressed to provide significant compressive pressure to the pipe (20) and plastic part (11), and thereby maintains the reliable sealing previously mentioned. Therefore, the teachings of Fischerkeller provide the necessary motivation for one of ordinary skill in the art at the time of invention to provide the other plastic part of Savitski with at least one nipple because during a heating stage the connection of the components does not become loose or untight since they expand identically and during a cooling stage they shrink identically even though a nipple is employed. [Examiner's Answer, bridging pages 5 and 6.]

However, in Savitski et al. the two pipe ends (14) and (24) form butt joint (22). See Figure 1. In a butt joint, the two ends are fastened together without overlapping. One would certainly not use a nipple in a butt joint, because there would be overlap. So, while a nipple is not explicitly excluded by Savitski et al., the use of a nipple is implicitly excluded by the use of a butt joint to the two pipe ends. Accordingly, there is no motivation for a nipple

provided on the outside with a profile because Savitski et al. already explicitly disclose a way to connect the component parts, without a nipple. Why would one use a nipple as claimed when the references already describe a way to join the parts together, which excludes the use of a nipple?

In view of the foregoing, the claimed composite part is not obvious over the combination of Savitski et al. and Fischerkeller et al. Reversal of this ground of rejection is respectfully requested.


Respectfully submitted,

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